



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,649	11/02/2000	Sinha Navin Kumar	JP920000155US1	4492
39903	7590	12/21/2004	EXAMINER	
ANTHONY ENGLAND PO Box 5307 AUSTIN, TX 78763-5307			CHANG, SUNRAY	
			ART UNIT	PAPER NUMBER
			2121	

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/704,649	KUMAR, SINHA NAVIN
	Examiner	Art Unit
	Sunray Chang	2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 24 October 2004.

2a) This action is FINAL.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-20 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 24 October 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This office action is in responsive to the paper filed on October 27<sup>th</sup>, 2004.
2. Claims 1 – 20 are presented for examination.

Claims 1 – 20 are rejected.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1 – 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Mauricio Breternitz, Jr. et al. (U.S. Patent No. 6,381,739, and referred to as Breternitz here in after).

4. Regarding **Independent claim 1**,

Breternitz teaches:

- A method for optimizing computer software [sequencing instructions for optimal data processor execution, Col. 1, Line 21]
- Call statement and a procedure which is callable by the call statement and which has code branches and control flow code for directing program flow to the code branches. [Computer program, Col. 1, Line 26 and Col. 2, Line 4]
- Analyzing step [Col. 2, Line 4 – 6]
- Identifying step [Col. 2, Line 10 – 13]
- Recording step [Col. 2, Line 14 – 15, and Col. 2, Line 41 – 45]
- Scanning step [Col. 2, Line 40 – 51, and Col. 2, Line 56 – 60]

5. Regarding **dependent claim 2**,

Breternitz teaches:

- Control flow graph for the procedure. [Col. 1, Line 26 – 30 and Col. 1, Line 45 – 46]

6. Regarding **dependent claim 3**,

Breternitz teaches:

- Control flow code for directing program flow to these code branches. [Col. 2, Line 4 – 6]
- Checking for compliance between predetermined rules. [Determine an efficient manner of ordering basic blocks in memory, Col. 2, Line 56 – Col. 3, Line 14]

- The method only in the event of such compliance. [Selected with the highest existing path/edge is selected, Col. 3, Line 13 – 14]

7. Regarding **dependent claim 4**,

Breternitz teaches:

- Cost-analysis algorithm based on predetermined rules about the length of the software. [Algorithm, Col. 2, Line 47 – 59]

8. Regarding **dependent claim 5**,

Breternitz teaches:

- Optimizing the new procedure by propagating that constant through the new procedure. [Directed graph, incrementing the weight, Col. 2, 44 – 57]

9. Regarding **dependent claim 6**,

Breternitz teaches:

- Determining call statement, calling parameters, new procedure's compliance with in-lining rule. [Determine an efficient manner, prepares for the formation of a sequence chain or reordered of instructions, Col. 3, Line 2, and Col. 3, Line 10 – 16]
- Replacing procedure [efficient output order of basic block, Col. 3, Line 5]

10. Regarding **independent claim 7**,

Breternitz teaches:

- A method for optimizing computer software [sequencing instructions for optimal data processor execution, Col. 1, Line 21]
- Call statement and a procedure which is callable by the call statement and which has code branches and control flow code for directing program flow to the code branches. [Computer program, Col. 1, Line 26 and Col. 2, Line 4]
- Control flow graph for the procedure. [Col. 1, Line 26 – 30 and Col. 1, Line 45 – 46]
- Identifying a new procedure. [Col. 2, Line 10 – 12, Line 4 – 6, Line 55 – 60, and Fig. 1]
- Recording step [Col. 2, Line 14 – 15, and Col. 2, Line 41 – 45]
- Scanning step [Col. 2, Line 40 – 51, and Col. 2, Line 56 – 60]
- Modify step [Restructured computer file, Col. 3, Line 34 – 37]

11. Regarding **independent claim 8**,

Breternitz teaches:

- A computer system for optimizing computer software [sequencing instructions for optimal data processor execution, Col. 1, Line 21]
- Call statement and a procedure which is callable by the call statement and which has code branches and control flow code for directing program flow to the code branches. [Computer program, Col. 1, Line 26 and Col. 2, Line 4]
- Analyzing step [Col. 2, Line 4 – 6]
- Identifying step [Col. 2, Line 10 – 13]
- Recording step [Col. 2, Line 14 – 15, and Col. 2, Line 41 – 45]
- Scanning step [Col. 2, Line 40 – 51, and Col. 2, Line 56 – 60]

- Modify step [Restructured computer file, Col. 3, Line 34 – 37]

12. Regarding **dependent claim 9**,

Breternitz teaches:

- Analyzing means is for storing data. [Col. 2, Line 5 – 11]
- Nodes and edges. [Col. 2, Line 42 – 56]
- Control flow graph for the procedure. [Col. 1, Line 26 – 30 and Col. 1, Line 45 – 46]

13. Regarding **dependent claim 10**,

Breternitz teaches:

- Control flow code for directing program flow to these code branches. [Col. 2, Line 4 – 6]
- Checking for compliance between predetermined rules. [Determine an efficient manner of ordering basic blocks in memory, Col. 2, Line 56 – Col. 3, Line 14]
- The method only in the event of such compliance. [Selected with the highest existing path/edge is selected, Col. 3, Line 13 – 14]
- Identifying new procedure. [Efficient output order of basic blocks Col. 3, Line 5]

14. Regarding **dependent claim 11**,

Breternitz teaches:

- Cost-analysis algorithm based on predetermined rules about the length of the software. [Algorithm, Col. 2, Line 47 – 59]

15. Regarding **dependent claim 12**,

Breternitz teaches:

- Optimizing the new procedure by propagating that constant through the new procedure.  
[Directed graph, incrementing the weight, Col. 2, 44 – 57]

16. Regarding **dependent claim 13**,

Breternitz teaches:

- Determining call statement, calling parameters, new procedure's compliance with in-lining rule. [Determine an efficient manner, prepares for the formation of a sequence chain or reordered of instructions, Col. 3, Line 2, and Col. 3, Line 10 – 16]
- Replacing procedure [efficient output order of basic block, Col. 3, Line 5]

17. Regarding **independent claim 14**,

Breternitz teaches:

- A system for optimizing computer software [sequencing instructions for optimal data processor execution, Col. 1, Line 21]
- Call statement and a procedure which is callable by the call statement and which has code branches and control flow code for directing program flow to the code branches. [Computer program, Col. 1, Line 26 and Col. 2, Line 4]
- Control flow graph for the procedure. [Col. 1, Line 26 – 30 and Col. 1, Line 45 – 46]
- Identifying a new procedure. [Col. 2, Line 10 – 12, Line 4 – 6, Line 55 – 60, and Fig. 1]
- Recording means [Col. 2, Line 14 – 15, and Col. 2, Line 41 – 45]

- Scanning means [Col. 2, Line 40 – 51, and Col. 2, Line 56 – 60]
- Modify means [Restructured computer file, Col. 3, Line 34 – 37]

18. Regarding **independent claim 15**,

Breternitz teaches:

- A computer program product for optimizing computer software [sequencing instructions for optimal data processor execution, Col. 1, Line 21]
- Call statement and a procedure which is callable by the call statement and which has code branches and control flow code for directing program flow to the code branches. [Computer program, Col. 1, Line 26 and Col. 2, Line 4]
- Analyzing computer code portion [Col. 2, Line 4 – 6]
- Identifying computer code portion [Col. 2, Line 10 – 13]
- Recording computer code portion [Col. 2, Line 14 – 15, and Col. 2, Line 41 – 45]
- Scanning computer code portion [Col. 2, Line 40 – 51, and Col. 2, Line 56 – 60]
- Modify computer code portion [Restructured computer file, Col. 3, Line 34 – 37]

19. Regarding **dependent claim 16**,

Breternitz teaches:

- Machine readable storage medium storing computer code. [Memory which contains all computer software and data as taught herein, Col. 6, Line 38 – 39]

20. Regarding **dependent claim 17**,

Breternitz teaches:

- Machine readable storage medium storing computer code. [Memory which contains all computer software and data as taught herein, Col. 6, Line 38 – 39]
- Available for downloading from a computer connected to a computer network. [External storage maybe floppy disks, magnetic tapes, CD-ROM, a network connection, or even other computer, Col. 6, Line 45 – 46]

21. Regarding **independent claim 18**,

Breternitz teaches:

- A computer program product for optimizing computer software [sequencing instructions for optimal data processor execution, Col. 1, Line 21]
- Call statement and a procedure which is callable by the call statement and which has code branches and control flow code for directing program flow to the code branches. [Computer program, Col. 1, Line 26 and Col. 2, Line 4]
- Control flow graph for the procedure. [Col. 1, Line 26 – 30 and Col. 1, Line 45 – 46]
- Identifying a new procedure. [Col. 2, Line 10 – 12, Line 4 – 6, Line 55 – 60, and Fig. 1]
- Recording portion [Col. 2, Line 14 – 15, and Col. 2, Line 41 – 45]
- Scanning portion [Col. 2, Line 40 – 51, and Col. 2, Line 56 – 60]
- Modify portion [Restructured computer file, Col. 3, Line 34 – 37]

22. Regarding **dependent claim 19**,

Breternitz teaches:

- Machine readable storage medium storing computer code. [Memory which contains all computer software and data as taught herein, Col. 6, Line 38 – 39]

23. Regarding **dependent claim 20**,

Breternitz teaches:

- Machine readable storage medium storing computer code. [Memory which contains all computer software and data as taught herein, Col. 6, Line 38 – 39]
- Available for downloading from a computer connected to a computer network. [External storage maybe floppy disks, magnetic tapes, CD-ROM, a network connection, or even other computer, Col. 6, Line 45 – 46]

**Response to Amendment**

**Drawings**

24. Applicants submit new drawings to replace Figure 2B; Examiner has withdrawn the drawing objection.

**Claim Rejections - 35 USC § 102**

25. Applicants' arguments over all regarding "Breternitz does not anticipates a call statement and does not disclose call parameter" (Page 12 – 15) is disagreed with. Based on applicants' specification, "call statement" has been defined as calling a procedure function, and "call parameter" has been defined as variables passed to the code branches by the control flow code are often also shown adjacent the arrows. Breternitz anticipates "call statement" [function calls,

Col. 16, Line 64 – Col. 17, Lines 11], and “call parameters” [1310, Fig. 31], can be used to explain the descriptions in Breternitz, Col. 2, Line 40 – 60, which has been used to make the rejection, and the rejection stand<sup>still</sup> <sup>still</sup>.

AB  
12/16/04

### Conclusion

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunray Chang whose telephone number is (571) 272-3682. The examiner can normally be reached on M-F 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-746-3506.

Sunray Chang  
Patent Examiner  
Group Art Unit 2121  
Technology Center 2100  
U.S. Patent and Trademark Office

December 13, 2004



Anthony Knight  
Supervisory Patent Examiner  
Group 3600